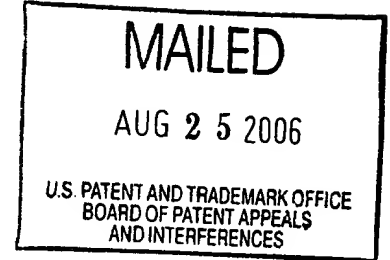


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte MOSHE ROCK, EDWARD P. DIONNE,  
CHARLES HARYSLAK, WILLIAM K. LIE  
and GADALIA VAINER



Appeal No. 2006-1501  
Application No. 09/624,660

ON BRIEF

Before KRATZ, TIMM and FRANKLIN, Administrative Patent Judges.  
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 1-8 and 10-18.<sup>1</sup> We have jurisdiction pursuant to 35 U.S.C. § 134.

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<sup>1</sup> At item No. 4 of the brief, an amendment cancelling claims 19-32 is described as being filed with the brief. The examiner (answer, page 2, item No. 3) refers to claims 19-32 as being cancelled. However, our review of the image file wrapper of this application does not reveal the presence of such an amendment therein. Thus, the examiner should review the image file wrapper of this application to clarify the completeness thereof as to the referred to amendment cancelling claims 19-32 and clarify the record regarding same prior to final disposition of this application.

BACKGROUND

Appellants' invention relates to a composite textile fabric comprising inner and outer fabric layers comprising hydrophillic, synthetic yarn in a plaited construction. The yarn can comprise polyester fibers. The inner fabric layer has an enlarged surface area and particles of a refractory compound are embedded within the yarn fibers of the inner fabric layer. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A composite textile fabric comprising an inner fabric layer made of a yarn comprising a plurality of fibers of polyester or other synthetic yarn which have been rendered hydrophilic, and an outer fabric layer made of a yarn comprising a plurality of fibers of polyester or other synthetic yarn which have also been rendered hydrophilic;

wherein the inner fabric layer and outer fabric layer are formed concurrently by knitting a plaited construction;

wherein particles of a refractory compound are embedded within said plurality of yarn fibers of said inner fabric layer; and

wherein said inner fabric layer has a surface area enlarged by a rising process for creating air spaces to enhance insulation performance and for reducing contact of the inner fabric layer upon a wearer's skin.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Lumb et al. (Lumb)

5,312,667

May 17, 1994

Fujiwara et al. (Fujiwara), Japanese published Unexamined Application No. 09-087901, Mar. 31, 1997.<sup>2</sup>

Ozawa et al. (Ozawa), Japanese Kokai Pat. Document No. 2-182968, Jul. 17, 1990.<sup>3</sup>

Claims 1-8 and 10-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lumb in view of Fujiwara<sup>4</sup> and Ozawa.

We refer to the supplemental brief (brief) and reply brief and to the answer for a complete exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us on this appeal.

#### OPINION

Having carefully considered each of appellants' arguments set forth in the briefs, appellants have not persuaded us of reversible error on the part of the examiner. Accordingly, we

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<sup>2</sup> Our references to Fujiwara in this decision are to the English language translation of record.

<sup>3</sup> Our references to Ozawa in this decision are to the English language translation of record prepared by Schreiber Translations unless indicated otherwise. The examiner refers to this reference using the first named inventor's first name, "Toshio."

<sup>4</sup>While the examiner refers to "Abstract Japanese Patent 09-087901A" in the statement of rejection, it is clear that the examiner employs the published application as the reference as evidenced by the translation of record and the examiner's references to paragraph numbers of the translation in describing the reference in the answer.

affirm the examiner's obviousness rejection of the appealed claims for substantially the reasons set forth in the answer. Our reasoning follows.

Appellants argue the rejected claims as a group. Thus, we select claim 1 as the representative claim on which we decide this appeal.

Appellants do not dispute the examiner's determination that Lumb discloses a fabric corresponding to the claimed product fabric but for the refractory particles embedded in the inner fabric layer. Regarding the latter claim limitation, the examiner turns to the teachings of Fujiwara and Ozawa.

Fujiwara discloses mixing ceramic materials, such as zirconium carbide, with synthetic fibers to form a composite product that has heat storing effects, as noted by the examiner at page 4 of the answer. Fujiwara describes using the mixed fibers and refractory material in the manufacture of stockings for keeping a wearer's legs warm.

Ozawa discloses a method for making knitted fabrics wherein inorganic particles, such as iron oxide, cobalt oxide, manganese oxide, copper oxide, titanium oxide, silicon oxide, silicon carbide, chromium oxide, and aluminum oxide are adhered (embedded) in pile knitted and woven fabrics to enhance the heat

insulation effect of the fabric product. The fabrics may be formed with natural or synthetic fibers. The inorganic particles are preferably ceramic particles that radiate far infrared rays. Ozawa discloses adhering the ceramic particles to hair tip parts of the knitted and woven fabrics and, optionally, to the back face of the knitted and woven fabrics. See pages 3-6 of Ozawa.

In Examples 3 and 4 as presented in the translation furnished by the PTO, Ozawa discloses or suggests using the fabric in making articles of clothing, including a vest to improve the insulating effects thereof.

Based on the combined teachings of Lumb, Fujiwara and Ozawa, the examiner has reasonably determined that it would have been obvious to one of ordinary skill in the art at the time of the invention to employ refractory (heat retaining and radiating) particles, such as the zirconium carbide of Fujiwara or the refractory materials of Ozawa, in the fabric of Lumb to provide the fabric of Lumb with improved heat insulation effect.<sup>5</sup>

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<sup>5</sup> In addition to the teachings of Fujiwara and Ozawa concerning the heat retaining and radiating particles, appellants acknowledge that the use of radiating particles in fabric layers for their heat radiation and retention properties is well-known in the art. See, e.g., page 3, lines 18-22 of appellants' specification. It is axiomatic that admitted prior art in applicants' specification may be used in determining the patentability of a claimed invention and that consideration of

Moreover, the examiner has determined that one of ordinary skill in the art would have been led, prima facie, to add the refractory particles to the fabric layer of Lumb that is raised by napping. That latter position of the examiner is reasonable in light of the teachings of the applied references. In this regard, Ozawa teaches that refractory particles can be added to both sides of the fabric and Fujiwara disclose adding the particles of refractory to a fabric useful in fabricating stockings. The stockings are designed for wear next to the skin of a wearer. In this later respect, appellants' raised inner fabric layer and the raised fabric of Lumb are disclosed as being suitable for wear opposite (next to) the skin in a finished clothing article. Thus, we are in agreement with the examiner's conclusion that the applied references establish that the claimed subject matter is prima facie obvious to one of ordinary skill in the art.

Appellants maintain in the reply brief (page 2) that the sole (central dispositive) issue to be resolved in this appeal is whether or not "[Ozawa] describes a raised fabric article in

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the prior art cited by the examiner may include consideration of the admitted prior art found in applicants' specification. See In re Nomiya, 509 F.2d 566, 570-71, 184 USPQ 607, 611-12 (CCPA 1975).

which the refractory particles of the inner fabric layer are worn away from the human body, i.e., away from the wearer's skin." Concerning this matter, the examiner and appellants spar over the correct interpretation of the PTO (Schreiber) translation of Ozawa (Toshio, as referred to by appellants and the examiner) at pages 13 and 14 thereof. Compare pages 3-5 of the supplemental brief and pages 2-5 of the reply brief with pages 6 and 7 of the answer. Appellants furnish another English language translation of Ozawa that is certified by Merrill Corporation in support of their contentions. The examiner counters with a third (partial) translation of Ozawa obtained from the PTO translation branch (reproduced at the end of the answer).

Even if we agree with appellants' argued viewpoint concerning the correct interpretation of the contested portion of the Schreiber translation furnished by the PTO, we do not agree with appellants that the examiner's obviousness position is incorrect. In this regard, appellants maintain that the phrase "placing said hair tip part toward the side opposite to the human body" as used at page 13 of the Schreiber translation of Ozawa imparts that the fabric is worn such that the hair tip part is on the fabric side that is near to (opposite to) the human body.

As set forth in the answer and above, however, the examiner's obviousness rejection is not over Ozawa alone. Rather, the rejection is over the combined teachings of Lumb, Fujiwara and Ozawa. Moreover, representative claim 1 is drawn to a composite textile fabric, not a method of wearing a fabric or garment. As we pointed out above, appellants do not dispute that Lumb discloses a fabric corresponding to the claimed product fabric but for the refractory particles embedded in the inner fabric layer. Thus, Lumb teaches a fabric that has an enlarged or raised surface area on a layer thereof. See, e.g., column 1, lines 53-55 of Lumb. The raised surface area layer of Lumb may result in reduced skin contact when worn against the skin of a wearer. However, that teaching of Lumb would not suggest to one of ordinary skill in the art that any refractory particles added (as taught by Fujiwara and Ozawa and/or as admittedly known for use in fabrics) would be placed even further from the skin in an outside layer as appellants' seemingly argue. Rather, the teachings of both Fujiwara and Ozawa suggest placing the refractory particles on a fabric in a manner such that the refractory particles would be in position to retain and radiate



heat to warm the body of a person wearing such a fabric.<sup>6</sup> Ozawa further teaches that the refractory particles can be placed on both sides of a garment, as noted above.

Given the combined disclosures of the applied references, one of ordinary skill in the art would have been led to locate refractory particles in either layer of the fabric of Lumb, and especially in the raised (inner) layer. After all, the raised layer is designed to be worn closer to the body of a wearer. This is so as to obtain the heat retaining advantages of employing such particles in the fabric.

Thus, appellants' arguments concerning the disputed portion of the translated Ozawa reference militates in favor rather than against the examiner's obviousness rejection.

On this record, we shall sustain the examiner's obviousness rejection.

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<sup>6</sup> The heat transfer associated with the refractory particles added to the fabric that is emphasized by Ozawa and Fujiwara is by radiating heat transfer, not conductive heat transfer.

The decision of the examiner to reject claims 1-8 and 10-18 under 35 U.S.C. § 103(a) as being unpatentable over Lumb in view of Fujiwara and Ozawa is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

Peter F. Kunk

Catharine

Beverly A. Franklin

BEVERLY A. FRANKLIN  
Administrative Patent Judge

BOARD OF PATENT  
APPEALS  
AND  
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